

## ABSTRACT OF THE DISCLOSURE

A routing scheme using intention packets is contemplated. At times, one or more switching devices within a network may become overloaded with traffic or may 5 encounter other adverse transmission conditions. When this occurs, a switching device may drop one or more packets to alleviate some of the congestion or other adverse condition. The switching devices may support a particular amount of resources (e.g. bandwidth, buffers, etc.) in and out of each of their ports. When a packet or a header portion of a packet arrives at a switching device, the switching device may determine 10 what port the packet will need and the amount resources required by the packet on that port. If the required resources available for the packet on the port, then the switching device may route the packet to a next device. If the required resources are not available for the packet on the port, then the switching device may drop at least a portion of the packet. As opposed to or in addition to congestion (e.g. insufficient resources), other 15 adverse conditions may be detected. When a packet is dropped, the switching device that dropped it may create an intention packet that corresponds to the dropped packet and route the intention packet to the destination device specified by the dropped packet. The destination device may send a packet to the sending device to resend the request and may perform an operation corresponding to the intention packet in anticipation of receiving a 20 resent request.

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